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EXAMINER

RILEY, MARCUS T

ART UNIT

PAPER NUMBER

2625

NOTIFICATION DATE

DELIVERY MODE

05/22/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/772,443

Applicant(s)

MORIKAWA ET AL.

Examiner

MARCUS T. RILEY

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2009.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-85/86)
Paper No(s)/Mail Date 02/06/2004/04/04/2006
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Inventor's Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This office action is responsive to applicant's remarks received on December 15, 2008. Claims 1-19 remain pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-8, 10-15 & 17-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (US 6,130,757 hereinafter, Yoshida '757) in combination with Watanabe (US 6,741,367 B1 hereinafter, Watanabe '367).

Regarding claim 1; Yoshida '757 discloses a data processing apparatus comprising (See Figure 2 wherein Fig. 2 shows the construction of a copying machine):

one or more compression/decompression units that compress the data for the input job and decompress the compressed data (See Figure 4 wherein #311 is the Compressing Unit and #312 is the Decompressing Unit “...image data is then **compressed by compressing unit 311 and is stored into code memory 306 as compressed image data.**” column 8, lines 1-3). See also (“...the image data is read from code memory 306, **decompressed by decompressing unit 312, and written into image memory 304 as decompressed image data.**” column 8, lines 32-34).

Yoshida ‘757 does not expressly disclose a controller that, a controller that when a processing request is issued for processing of the data for a next job by said compression/decompression unit(s) during processing of the data for a current job by said compression/decompression unit(s), obtains the processing wait period between pages of said current job, determines whether or not the data for said next job will undergo compression or decompression based on a comparison between the minimum processing time for said next-job data and said processing wait period and controls the execution of processing of said next job by said compression/ decompression unit(s) between pages of said current job in accordance with this determination.

Watanabe ‘367 discloses a controller that when a processing request is issued for processing of the data for a next job by said compression/decompression unit(s) during processing of the data for a current job by said compression/decompression unit(s) (“...the image forming apparatus comprises: a **compressor/decompressor which compresses and decompresses data**; a buffer, connected to the compressor/decompressor by a signal line, which stores compressed **original data given by a host device in order to generate image data**; ...and a processor which executes a predetermined program to control data compression/decompression by the **compressor/decompressor and data transfer among the compressor/decompressor, the buffer, the image memory, and the transfer circuit.**” column 1, line 56 thru column 2, line 19).

obtains the processing wait period between pages of said current job, determines whether or not the data for said next job will undergo compression or decompression based on a comparison between the minimum processing time for said next-job data and said processing wait period (See Figure 11 where Steps S402 and S403 shows wherein if the conveyance of the sheet of the paper P has been started, the CPU 6 obtains start time t1 which represents the time when the conveyance started (step S402). Moreover, CPU 6 further obtains present time t2 at a predetermined timing after the conveyance started (step S403). See also column 12, line 32 thru column 13, line 8 wherein it explains how the next job will undergo compression/decompression based on the comparison of a lapsed time.)

and controls the execution of processing of said next job by said compression/decompression unit(s) between pages of said current job in accordance with this determination (*...a processor which executes a predetermined program to control data compression/decompression by the compressor/decompressor and data transfer among the compressor/decompressor, the buffer, the image memory, and the transfer circuit, wherein the processor switches the compressor/decompressor to decompress the compressed image data in the image memory or to decompress the compressed original data in the buffer.*" column 1, lines 23-26). See also ("*...the processor may discriminate whether a present period is a period for transferring the image data or the compressed image data in the image memory to the image forming mechanism via the transfer circuit, and may control the compressor/decompressor to decompress the original data in the buffer when the processor discriminates that the present period is not the period for transferring the image data or the compressed image data to the image forming mechanism. In this case, the processor may execute a predetermined program to decompress the original data in the buffer when the processor discriminates that the present period is the period for transferring the image data or the compressed image data to the image forming mechanism.*" column 2, lines 43-56).

Yoshida '757 and Watanabe '367 are combinable because they are from the same field of endeavor of image forming apparatuses ("*The present invention relates to efficient management of a data compression/decompression system employed in an image forming apparatus such as a printer.*" Watanabe '367 at column 1, lines 8-10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the data processing apparatus as taught by Yoshida '757 by adding a controller that, when a processing request is issued for processing of the data for a next job by said compression/decompression unit(s) during processing of the data for a current job by said compression/decompression unit(s), obtains the processing wait period between pages of said current job, determines whether or not the data for said next job will undergo compression or decompression based on a comparison between the minimum processing time for said next-job data and said processing wait period, and controls the execution of processing of said next job by said compression/decompression unit(s) between pages of said current job in accordance with this determination as taught by Watanabe '367. The motivation for doing so would have been to reduce process time for printing with efficient data compression/decompression in an image forming apparatus. Therefore, it would have been obvious to combine Yoshida '757 with Watanabe '367 to obtain the invention as specified in claim 1.

Regarding claim 2; Yoshida '757 discloses where the processing wait period is longer than said minimum processing time, said controller permits said compression/decompression unit(s) to process said next job between pages of said current job (See Figures 20A and 20B wherein Fig. 20A is a timing chart showing timings where the compressor/decompressor is used for compressing/decompressing the print data and the image data; and Fig. 20B is a diagram showing a relationship between a period for decompressing the print data shown in Fig. 20A and the print data to be decompressed.).

Regarding claim 3; Yoshida '757 discloses where the said job includes a copy job in which image data for an original document ready by an original document reader is printed out or a print job in which image data received from an external terminal is printed out (*"Each of copying*

machines 1, 4, and 6 includes such functions as image reading, image processing with which read images are edited, and printing.” column 4, lines 25-26).

Regarding claim 5; Yoshida ‘757 discloses where the said next-job attribute consists of whether the data processing for the next job is to take place on a page unit, band unit or block unit basis (“*CPU 103 searches print job table PT for a job having the highest priority each time a page of job is processed. The job having the highest priority is generally processed first. Jobs are deleted from print job table PT when the jobs are completed.*” column 11, lines 29-33).

Regarding claim 6; Yoshida ‘757 discloses where the said next-job attribute consists of the type of the next job (“*The job IDs are job identification numbers for facsimile transmissions. The priorities indicate the priorities of the jobs for facsimile transmissions. The registration time indicates the time when the job was registered. The job statuses indicate the current statuses of the jobs such as SUSPENDED, WAITING, and IN TRANSMISSION.*” column 11, lines 38-43).

Regarding claim 7; Yoshida ‘757 discloses where said next-job attribute consists of the input source for the next job (“*CPU 103 for memory unit 30 controls memory unit 30 and external input/output controlling unit 50. More specifically, CPU 103 stores the image data, which is requested by another apparatus via external input/output controlling unit 50, into memory unit 30. CPU 103 reads the image data from memory unit 30 and instructs print processing unit 40 to output the image data to execute printing. CPU 103 also instructs facsimile converting unit 51 to output the image data to execute a facsimile transmission. CPU 103 instructs external input/output controlling unit 50 to output the image data to send the image data to another apparatus for a requested job.*” column 7, lines 23-34).

Regarding claim 8; Yoshida ‘757 discloses where said next-job attribute consists of whether the data is binary data or multi-value data (“*For printing, the image data is read from code memory 306, decompressed by decompressing unit 312, and written into image memory 304 as decompressed image data. The image data in memory 304 is transferred to print processing unit 40 via rotation processing unit 307 and multi-valuing unit 308.*” column 8, lines 33-37).

Regarding claim 10; Yoshida '757 discloses where said job includes a copy job in which image data for an original document ready by an original document reader is printed out or a print job in which image data received from an external terminal is printed out (*"Each of copying machines 1, 4, and 6 includes such functions as image reading, image processing with which read images are edited, and printing."* column 4, lines 25-26).

Regarding claim 4 & 11; Claims 4 & 11 contains substantially the same subject matter as claim 1. Therefore, claim 4 & 11 are rejected on the same grounds as claim 1.

Regarding claims 10 & 19; Claim 10 & 19 contains substantially the same subject matter as claim 3. Therefore, claims 10 & 19 are rejected on the same grounds as claim 3.

Regarding claim 12; Claim 12 contains substantially the same subject matter as claim 5. Therefore, claim 12 is rejected on the same grounds as claim 5.

Regarding claim 13; Claim 13 contains substantially the same subject matter as claim 6. Therefore, claim 13 is rejected on the same grounds as claim 6.

Regarding claim 14; Claim 14 contains substantially the same subject matter as claim 7. Therefore, claim 14 is rejected on the same grounds as claim 7.

Regarding claim 15; Claim 15 contains substantially the same subject matter as claim 8. Therefore, claim 15 is rejected on the same grounds as claim 8.

Regarding claim 17; Claim 17 contains substantially the same subject matter as claim 2. Therefore, claim 17 is rejected on the same grounds as claim 2.

Regarding claim 18; Watanabe '367 discloses where said controller compares said next-job data minimum processing time and said processing wait period after the next-job attribute is identified (See Figure 11 where Steps S402 and S403 shows wherein if the conveyance of the sheet of the paper P has been started, the CPU 6 obtains start time t1 which represents the time when the conveyance started (step S402). Moreover, CPU 6 further obtains present time t2 at a predetermined timing after the conveyance started (step S403). See also column 12, line 32 thru column 13, line 8 wherein it explains how the next job will undergo compression/decompression based on the comparison of a lapsed time.)

5. **Claims 9 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida '757 in combination with Watanabe '367 as applied to claim 4 above, and further in view of Nishikawa '046 et al. (US 6,934,046 hereinafter, Nishikawa '046).

Regarding claim 9; the combination of Yoshida '757 does not expressly disclose where said next-job attribute consists of whether the data is monochrome data or color data.

Nishikawa '046 discloses where said next-job attribute consists of whether the data is monochrome data or color data ("*A field 1202 denotes physical page setting information in which the setting of layout or color/monochrome is stored when the layout or the color/monochrome can be designated for each physical page.*" column 19, lines 22).

Yoshida '757 and Nishikawa '046 are combinable because they are from the same field of endeavor of a data processing apparatus ("*The present invention relates to an information processor for generating printing data...*" Nishikawa '046 at column 1, lines 9-10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the data processing apparatus as taught by Yoshida '757 by adding a next-job attribute consisting of whether the data is monochrome data or color data as taught by Nishikawa

'046. The motivation for doing so would have been to provide an arrangement for combining print jobs ("*...it is an object of the present invention to provide an arrangement for combining together print jobs respectively...*" Nishikawa '046 at column 2, lines 19-20). Therefore, it would have been obvious to combine Yoshida '757 with Nishikawa '046 to obtain the invention as specified in claim 4.

Regarding claim 16; Claim 16 contains substantially the same subject matter as claim 9. Therefore, claim 16 is rejected on the same grounds as claim 9.

Examiner Notes

6. The Examiner cites particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully considers the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or as disclosed by the Examiner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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